Appl. No.

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REMARKS

The following remarks are responsive to the July 14, 2005 Office Action. Claims 1, 2, and 28-38 were previously cancelled without prejudice, and Claims 3-27 remain as originally filed and are presented for further consideration. Please reconsider the claims in view of the following remarks.

Response to Rejection of Claims 3-27 Under Obviousness-type Double Patenting

In the July 14, 2005 Office Action, the Examiner rejects Claims 3-5 under the judicially-created doctrine of obviousness-type double patenting as being unpatentably over Claims 1-37 of U.S. Patent No. 6,856,393 issued February 15, 2005. The Examiner also rejects Claims 6-27 under the judicially-created doctrine of obviousness-type double patenting as being unpatentably over Claims 1-37 of U.S. Patent No. 6,856,393.

In the interest of expediting allowance of the present application, Applicants are submitting herewith a Terminal Disclaimer to overcome the obviousness-type rejection of Claims 3-27. Applicants' submission of this terminal disclaimer to obviate the nonstatutory double patenting rejection is not an admission of the propriety of the rejection (*see*, M.P.E.P. § 804.02 (II), August 2001, page 800-32). Applicants respectfully request that the Examiner withdraw the rejection of Claims 3-27 and pass these claims to allowance

Response to Rejection of Claims 3-5 Under 35 U.S.C. § 103(a)

In the July 14, 2005 Office Action, the Examiner rejects Claims 3 and 5 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,220,451 issued to Gotoh et al. ("Gotoh") in view of Amnon Yariv et al., "Compensation for channel dispersion by nonlinear optical phase conjugation," Optics Letters, Volume 4, No. 2, pages 52-54, February 1979 ("Yariv"). The Examiner acknowledges that Gotoh does not disclose or suggest "measuring a Fourier transform magnitude of the composite nonlinearity profile or "calculating the sample nonlinearity profile using the Fourier transform magnitude of the composite nonlinearity profile," as recited by Claim 3. However, the Examiner states that Yariv discloses using nonlinear optical phase conjunction to measure a Fourier transform magnitude of a composite nonlinearity profile and calculating the sample nonlinearity profile using the Fourier transform magnitude, and that it would be obvious to modify the disclosure of Gotoh as disclosed by Yariv.

Applicants submit that Yariv does not disclose or suggest the limitations of Claim 3 which are not disclosed or suggested by Gotoh. Yariv describes a method of using nonlinear

Appl. No. : 10/645,331

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optical phase conjunction in a nondispersive medium to compensate for channel dispersion and to correct for temporal pulse broadening (see, abstract of Yariv). The theoretical description of this process by Yariv utilizes the Fourier transform of the **input optical pulse** (see, equation 1 of Yariv) inputted into a dispersive channel, but Yariv does not disclose or suggest "measuring a Fourier transform magnitude of the composite nonlinearity profile" of a **sample**, as recited by Claim 3. Furthermore, Yariv does not disclose or suggest "calculating the sample nonlinearity profile using the Fourier transform magnitude of the composite nonlinearity profile," as recited by Claim 3.

Thus, the combination of Gotoh in view of Yariv does not disclose or suggest all the limitations of Claim 3. Applicants submit that Claim 3 is patentably distinguished over Gotoh in view of Yariv. Claim 5 depends from Claim 3, so Claim 5 includes all the limitations of Claim 3 as well as other limitations of particular utility. Therefore, Claim 5 is also patentably distinguished over Gotoh in view of Yariv. Applicants respectfully request that the Examiner withdraw the rejection of Claims 3 and 5 and pass these claims to allowance.

Response to Rejection of Claim 4 Under 35 U.S.C. § 103(a)

In the July 14, 2005 Office Action, the Examiner rejects Claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Gotoh in view of Yariv and in further view of U.S. Patent No. 5,434,699 issued to Berkovic et al. ("Berkovic"). Applicants submit that Berkovic does not disclose or suggest the limitations of Claim 3 which are not disclosed or suggested by Gotoh in view of Yariv. Therefore, Applicants submit that Claim 3 is patentably distinguished over Gotoh in view of Yariv in further view of Berkovic. Claim 4 depends from Claim 3, so Claim 4 includes all the limitations of Claim 3 as well as other limitations of particular utility. Therefore, Claim 4 is also patentably distinguished over Gotoh in view of Yariv in further view of Berkovic. Applicants respectfully request that the Examiner withdraw the rejection of Claim 4 and pass Claim 4 to allowance.

Summary

For the foregoing reasons, Applicants submit that Claims 3-27 are in condition for allowance, and Applicants respectfully request such action.

Appl. No.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

Dated: 10/14/05 By:

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